REMARKS

Claim 26 has been amended to include the thermally-isolated micro-platform of claim 56, as illustrated in figure 3, and to specify that the functional resistor is a thermally-trimmable resistor. No new subject matter has been added.

Claim 42 has been amended by introducing the following: "by dissipating more power at the edges of a heat-targeted region where there is greater heat loss". The problem addressed in claim 42 is described on page 24, lines 6-14: "As alluded to above, the trimming behavior at temperatures above the trimming threshold may be a complex and sensitive function of T. Thus, for accurate control of trimming in the functional resistor, it is important for the entire functional resistive element being trimmed to be maintained at the same (and controllable) temperature. Thus the spatial T profile, T(x) in the heat-targeted region, should be constant. However, since the heat-targeted element, even in steady state, is intended to be at a higher T than its surroundings, the boundaries of the heat-targeted region will tend to be at a temperature lower than the T at the center." The solution is described in a general manner at lines 14-16 of page 24: "In order to compensate for this, figures 12a, 12b, and 12c show examples of layouts intended to dissipate more power at the edges of the heat-targeted region". Therefore, the amendment is fully supported by the description as originally filed and no new subject matter has been added.

Claims dependent on claims 26 and 42 have been amended to correspond to the changes made to the independent claims.

<u>Claim Rejections – 35 USC § 102</u>

Claims 26 and 42 are rejected under 35 USC 102(b) as being anticipated by Spraggins et al. (US 5,466,484). The Applicant believes the present amendment overcomes this rejection for the following reasons.

Spraggins describes a method of setting a resistance value of a resistor. The method comprises the steps of providing a substrate having a major surface, forming a heating element on the major surface, forming an isolation layer over the heating element, forming the resistor on the isolation layer, wherein a portion of the isolation

layer is sandwiched between the resistor and the heating element, and annealing the resistor. A resistor structure comprising a heating element is also described. An isolation material is disposed on the heating element, and a resistor is disposed on the isolation material.

With respect to claim 26, Spraggins does not teach or suggest a "thermally-isolated micro-platform suspended above a cavity on a substrate". Since the isolating layer is provided above the heating element, it cannot be analogous to a layer that is suspended above a cavity in the substrate. In addition, the trimming circuitry described by Spraggins is essentially the heating element provided underneath the resistor structure. Since it is underneath, this trimming circuitry cannot subject "a portion of the thermally-isolated micro-platform to heat pulses for thermal trimming such that a resistance value of one of said plurality of thermally-trimmable resistors is trimmed while a resistance value of remaining ones of said plurality of thermally-trimmable resistors remains substantially untrimmed." The heating element must apply heat to the entire isolating layer, thereby trimming the single resistor structure provided above it. In addition, the design provided by Spraggins does not allow a plurality of thermally-trimmable resistors to be provided on the thermally-isolated micro-platform. Each resistor structure must have its own isolating layer above a heating element. Therefore, Spraggins does not anticipate claim 26.

With respect to claim 42, Spraggins does not teach "a heat source having a power dissipation geometry adapted to obtain a substantially constant temperature distribution across said thermally-trimmable resistor by dissipating more power at the boundaries of a heat-targeted region where there is greater heat loss". In Spraggins, there is no special configuration described or suggested for the heating element provided underneath the resistor structure. The temperature distribution that will be attained in Spraggins' resistor structure is an automatic consequence of the heater's position underneath the resistor structure. There is no consideration for the heater's specific geometry as it relates to power dissipation in the resistor structure. The notion of greater heat loss at the boundaries of the heat targeted region is not addressed, and there is no adaptation to obtain a substantially constant temperature distribution across the resistor. The geometry of Spraggins'

heater position does not suggest dissipating more power at the boundaries of a heat-targeted region where there is greater heat loss. Therefore, Spraggins does not anticipate claim 42.

Claims 26 and 42 are rejected under 35 USC § 102(e) as being anticipated by Iwasaki et al. (US 2001/0001493). The Applicant believes the present amendment overcomes this rejection for the following reasons.

Iwasaki et al. describes a regulating resistor network including a plurality of resistors connected in parallel to each other. Each of these resistors is cuttable by being irradiated with light, and a resistance value of the regulating resistor network is adjustable by cutting at least one of the resistors off.

Iwasaki does not describe or teach thermal trimming techniques or circuitry. The trimming technique described by Iwasaki is the ablation of resistive material in order to change the resistance value. This differs significantly from thermal trimming, and does not require thermally-trimmable resistors.

With respect specifically to claim 26, Iwasaki does not teach or suggest a "thermally-isolated micro-platform suspended above a cavity on a substrate", or trimming circuitry that subjects "a portion of the thermally-isolated micro-platform to heat pulses for thermal trimming such that a resistance value of one of said plurality of thermally-trimmable resistors is trimmed while a resistance value of remaining ones of said plurality of thermally-trimmable resistors remains substantially untrimmed". Therefore, claim 26 is not anticipated by Iwasaki.

With respect to claim 42, Iwasaki does not teach "a heat source having a power dissipation geometry adapted to obtain a substantially constant temperature distribution across said thermally-trimmable resistor by dissipating more power at the boundaries of a heat-targeted region where there is greater heat loss". Therefore, claim 42 is not anticipated by Iwasaki.

Claim 42 is further rejected under 35 USC 102(b) as being anticipated by Swinehart (US 5,363,084). This rejection is respectfully traversed for the following reasons.

Swinehart does not address thermal trimming, but rather uses the ablation of resistive material to trim resistance. In addition, Swinehart does not teach or suggest "a heat source having a power dissipation geometry adapted to obtain a substantially constant temperature distribution across said thermally-trimmable resistor by dissipating more power at the boundaries of a heat-targeted region where there is greater heat loss". Therefore, claim 42 is not anticipated by Swinehart.

With respect to the prior art made of record and not relied upon, the Applicant would like to point out that Davis et al (US 4,041,440), Natzle et al. (US 5,081,439), Ariyoshi (US 5,557,252), Emili et al. (Us 6,667,683) and Ozawa (JP404145602) do not address thermal trimming of thermally-trimmable resistors, but rather other types of trimming, such as trimming by cutting or ablating part of the resistive material.

In view of the foregoing, the Applicants believe the present application to be patentable and early and favorable notice is earnestly solicited.

Respectfully submitted,
Oleg GRUDIN et al.
By:
Alexandra Daoud (Reg. 55,992)
Customer Number: 020988

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

Alexandra Daoud, Reg. No. 55,992
Name of person signing certification

Signature — March 31, 2006
Date